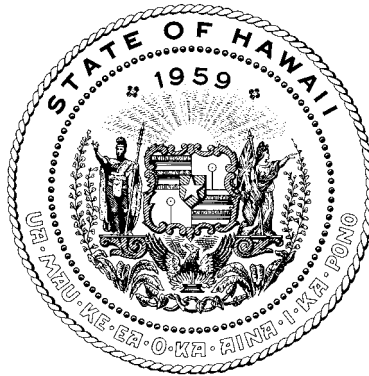


REPORT TO THE TWENTY-THIRD LEGISLATURE
STATE OF HAWAII
REGULAR SESSION OF 2006

RELATING TO THE NATURAL AREA RESERVES SYSTEM
AND
NATURAL AREA PARTNERSHIP PROGRAM
AND
THE FINANCIAL CONDITION OF THE
NATURAL AREA RESERVE FUND



PREPARED BY

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF FORESTRY AND WILDLIFE

IN RESPONSE TO SECTION 195-6.6, HAWAII REVISED STATUTES

HONOLULU, HAWAII
NOVEMBER 2005

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LIST OF ACRONYMS

Act	Legacy Lands Act
BLNR	Board of Land and Natural Resources
BWS	Board of Water Supply
CCA	Candidate Conservation Agreement
CGAPS	Coordinating Group for Alien Pest Species
Commission	Natural Area Reserve System Commission
CWCS	Comprehensive Wildlife Conservation Strategy
CWRM	Commission on Water Resource Management
DHHL	Department of Hawaiian Home Lands
DLNR	Department of Land and Natural Resources
DOFAW	Division of Forestry and Wildlife
EMWP	East Maui Watershed Partnership
EMoWP	East Molokai Watershed Partnership
FSP	Forest Stewardship Plan
FY	Fiscal Year
GIS	Geographic Information System
GMA	Game Management Area
GSN	Genetic Safety Net program
HAWP	Hawaii Association of Watershed Partnerships
HCP	Habitat Conservation Plan
HRS	Hawaii Revised Statutes
HINHP	Hawaii Natural Heritage Program
HTA	Hawaii Tourism Authority
IFB	Invitation for Bid
ISC	Invasive Species Committee
KMWP	Koolau Mountains Watershed Partnership
KRPF	Kokee Rare Plant Facility
KWA	Kauai Watershed Alliance
LHWRP	Leeward Haleakala Watershed Restoration Partnership
MFBRP	Maui Forest Bird Recovery Project
MISC	Maui Invasive Species Committee
ML&P	Maui Land & Pineapple Company, Ltd.
Na Ala Hele	Statewide Trail and Access Program
NARF	Natural Area Reserve Fund
NARS	Natural Area Reserve System
NAPP	Natural Area Partnership Program
O-KP	Olaa Kilauea Partnership
OISC	Oahu Invasive Species Committee
ORPF	Olinda Rare Plant Facility
PKW	Puu Kukui Watershed Preserve
PRPF	Pahole Rare Plant Facility
SUP	NARS Special Use Permits
T&E	Threatened and Endangered Species
TNCH	The Nature Conservancy of Hawaii
VRPF	Volcano Rare Plant Facility
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WMMWP	West Maui Mountains Watershed Partnership
WPP	Watershed Partnership Projects
YCC	Youth Conservation Corps

REPORT TO THE TWENTY-THIRD LEGISLATURE

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NATURAL AREA RESERVE FUND**

PURPOSE

Section 195-6.6, Hawaii Revised Statutes (HRS), requires an annual comprehensive status report on the Natural Area Reserves System (NARS), and the Natural Area Partnership Program (NAPP) and the Financial Condition of the Natural Area Reserve Fund. This report will include, but not be limited to:

1. Description of activities and accomplishments;
2. Compliance with Chapter 42F, HRS, requirements;
3. Analysis of the problems and issues encountered in meeting or failing to meet the objectives set forth in the management plans;
4. Status of public hunting opportunities;
5. Financial condition of the Natural Area Reserve Fund (the Fund), including receipts and expenditures for the Fund for the previous fiscal year (FY 05); and
6. Plans and management objectives for the next fiscal year (FY 06).

NATURAL AREA RESERVES SYSTEM (NARS)

1. DESCRIPTION OF ACTIVITIES AND ACCOMPLISHMENTS

The statewide NARS currently consists of 19 reserves with a total of approximately 109,165 acres on five islands. NARS was set up with the mandate of protecting the best remaining examples of native ecosystems and geological sites on state-managed lands, which would act as a yardstick by which to measure changes occurring across the rest of the State. Annual program activities are based primarily on the long-term integrated management plans developed for each reserve. While NARS is based on the concept of protecting native ecosystems, as opposed to single species, many rare and endangered plants and animals benefit from the protection efforts through NARS. Major management activities implemented according to the management plans include non-native animal control, non-native plant control, rare species protection, research, monitoring, and public education. While the majority of the reserves have management plans, the plans are being reviewed and updated as new management actions are identified. To this end, Department of Land and Natural Resources (DLNR)/Division of Forestry and Wildlife (DOFAW) participates in a number of groups to facilitate increased input by all concerned parties before existing plans are revised and new plans are written. Large-scale management actions, such as fences, may go through the State environmental

review process (pursuant to HRS Chapter 343). Management policies approved by the NARS Commission and the Board of Land and Natural Resources (BLNR) continue to be the general guide for rule-making and development of management plans for NARS.

Non-native Animal Control

Ground and aerial surveys of feral ungulates (hoofed animals, including pigs, goats, deer, and sheep) were conducted in various reserves. As outlined in the management plans, the type of control measures implemented depended on the reserve location, terrain features, and the type and relative abundance of non-native animals. A combination of public hunting, strategic fencing, trapping, staff hunting, and snaring were used to control non-native animals in the reserves.

Over 51 miles of fencing was maintained and/or repaired on the Islands of Kauai, Oahu, Maui, Molokai, and the Big Island (with the majority of this fencing (35 miles) located on the Big Island), ranging from landscape-scale conservation fencing to smaller enclosures around rare plants. Approximately 3.5 miles of new fencing was constructed during FY 05 on the Big Island, Maui, and Molokai.

Organized control methods (a combination of public hunting, special hunts, trapping, staff hunting, and snaring) removed 356 goats, 224 pigs, 14 black-tailed deer, 0 axis deer, and 20 mouflon sheep Statewide. Public hunting remains the primary method of control on Kauai, while other methods are explored on Oahu, Maui, and the Big Island. For example, after low success rates from public hunting, staff control and volunteer trapping with assistance from the Pig Hunters of Hawaii (a hunting organization) and surrounding community members was conducted in the 2,300-acre Wright Road unit of the Puu Makaala Natural Area Reserve (NAR). Between July 2004 and February 2005, the traps caught 15 pigs. Staff control efforts throughout FY 05 controlled an additional 45 feral pigs. At Manuka NAR (Hawaii), cooperation continued with MacFarms Hawaii (the adjacent landowner) for pig trapping, with 25 trapped, reducing both the threat to the natural resources of Manuka NAR and to the macadamia nut crops of MacFarms Hawaii.

In addition, small animal control efforts captured 167 mongoose, 17 feral cats, four feral dogs, and 50 coqui frogs (Manuka). Three rats were captured and likely hundreds more were controlled through the use of diphazinone baiting at Kaena Point NAR (Oahu). The rat and small animal control efforts at Kaena contributed to the dramatic improvement in the nesting success of wedge-tailed shearwaters and Laysan albatross. In addition, two predator free snail sanctuaries were maintained on Oahu to protect the endangered tree snail *Achatinella mustelina*.

NARS launched a trial effort to control incipient coqui frog populations near Manuka State Park within the reserve boundaries, treating a total of one acre of forest using ground and helicopter application.

Non-native Plant Control

Non-native plant control continued throughout NARS and in rare plant enclosures as ongoing

management actions. The cleared areas are monitored to prevent the re-establishment of invasive non-native plants. Weed control methods include removal by hand and the use of approved herbicides. In addition to manual control and monitoring, another primary strategy in invasive plant control efforts is the use of fencing to restrict ungulate disturbance (which promotes the growth of non-native plants in the disturbed areas) and to limit ungulate movements (reducing the dispersal of seeds). Highlights during FY 05 were the control of 120 acres of bocconia at Kanaio (Maui), removal of all weeds within a ½ acre area of Ahihi-Kinau (Maui), and fountain grass suppression through aerial and ground control methods at Manuka. Other priority weeds receiving attention include golden crown-beard, koa haole, kiawe, Australian salt brush, African tulip, Himalayan raspberry, blackberry, thimbleberry, German ivy, sourbush, strawberry guava, guava, and kikuyu. Volunteers provided valuable manual labor needed to remove and control the invasive non-native plants. Weekend service trip as well as Youth Conservation Corps and Americorps assisted tremendously with support and energy for invasive plant control. Natural areas continue to be monitored for the expansion of existing invasive plants and the emergence of new invasive plants.

Support of Invasive Species Committees (ISC)

Staff continued support of the invasive species committees on all islands in their work in controlling incipient species. For example, the NAR Manager on Oahu provided assistance to the Oahu Invasive Species Committee (OISC), a team dedicated to the survey and control of target invasive weed species, including miconia, fountain grass, and coqui frog. The Manager purchased safety and communication equipment to support OISC field activities with money allocated by the State Legislature for invasive species control, and provided vehicles, fuel, office and storage space. In addition, NARS staff assisted in coqui frog control efforts on Oahu, including the eradication of the Wahiawa population. Similar support actions are performed by staff on the other branches, recognizing the need to contain incipient species before escape into the natural areas and watersheds. In addition, cooperative efforts between NARS staff and island ISCs continue as needed, such as the joint coqui control project at Manuka NAR.

Rare Species Protection and Restoration

Utilizing staff time and the Fund as cash cost-share for federal Section 6 grants, a wide range of management activities were continued in FY 05. The focus of the Rare Plant Program continues to be habitat protection & enhancement, benefiting plant species as well as supporting other native Hawaiian fauna. The mid-elevation rare plant nurseries on Hawaii, Maui, Oahu, and Kauai continue to be the heart of restoration efforts. Over 4,600 individual plants originating from Volcano Rare Plant Facility were out planted on state lands in the past year. On a statewide basis, Lyon Arboretum Tissue Culture Facility (Oahu) continues to serve as a genetic storage facility in addition to a propagation nursery for preservation of Hawaii's most rare plants, which are sustained *in vitro* as germplasm storage collections.

On Oahu, planning expansions to the Pahole Rare Plant Facility (PRPF) and coordinating its use by cooperators was the emphasis for the past year. A master plan for the facility was completed by the NAR staff and design work was completed for an additional 2,500 square feet of nursery space, a new access road, erosion repairs, plus a drainage plan for erosion prevention. 14 rare

plant species are in propagation/maintained in the PRPF for out planting, genetic storage, or production of seeds/cuttings. Hundreds of additional plants are maintained at PRPF for mitigation measures outlined in the Makua Implementation Plan. Other activities supporting rare plant restoration on Oahu include a cooperative effort in the Koolau Mountains, consisting of the Watershed Partnership, Oahu Genetic Safety Net (GSN) Coordinator, OISC, PRPF, plus DOFAW. The Watershed Coordinator works with landowners, OISC works on alien species, PRPF provides plants & restoration skills, while DOFAW staff does the planning, administration, and supervision of conservation activities. The GSN Coordinator focuses on management for 27 rare Oahu species by monitoring/enhancing/stabilizing plants having less than 50 individuals left in their natural habitat on state, county and private lands. These small scale efforts must be taken to decrease the chances of extinction of these species. Finally, the Dillingham Nursery was established for the *Abutilon menziesii* Habitat Conservation Plan (HCP) and for restoration of rare plant species in coastal/strand communities. Monitoring/management of the two *Abutilon* populations are ongoing with the past year an additional population was established at Diamond Head State Park.

On Kauai, the Kokee Rare Plant Facility (KRPF) focuses on propagation of 25 endangered species and other rare Kauai plants for out planting. A Candidate Conservation Agreement (CCA) project is fencing a portion of Kuia NAR. Staff maintained 15 fenced enclosures protecting rare plant species. The National Tropical Botanical Garden is in year two of a three year grant for management of the Limahuli Watershed via a CCA grant. Baseline surveys & collections of rare species in this watershed have been completed with propagation and out planting ongoing with cooperation of Kauai DOFAW staff. An additional ongoing project is a cooperative research project with University of Hawaii, concerning the effectiveness of bird/insect pollination of one of Hawaii's unique plant groups, lobelioids.

On Hawaii, the Volcano Rare Plant Facility (VRPF) continues as a multi-agency collaboration with DOFAW as the lead agency. A total of 4,604 plants were produced by VRPF for numerous out planting programs on the Big Island, of which almost 3,800 are listed as endangered by state and federal laws. The most successful project in the State remains the silversword project organized by Dr. Rob Robicheaux of the University of Arizona. Over 2,500 silverswords were out planted last year in their natural habitat. Almost 500 individual plants of 20 species of rare plants were reintroduced within the Big Island NARs in the past year. Within Puu O Umi and Kipahoe NAR, perimeter fencing projects are proceeding; ungulate control continues in Manuka NAR and the Wright Road unit of Puu Makaala but the lava flow unit of Puu Makaala is ungulate free. Major advances were made in Manuka combating fountain grass with a complete sweep of 1000 acres in the lower NAR. Weed control, road and fence line maintenance, and trail repairs are on going throughout the year. Within the South Kona Forest Reserve, surveys continue for rare species (93 individuals of 5 species discovered this year), enclosure construction, weed control, and restoration with 68 individuals of five rare plant species out planted. In the Puu Waawaa area, propagule collection, fence maintenance, and weed control continues at the bird sanctuary, cabin and Delissea enclosure areas. Approximately 1,000 individuals were out planted in these enclosures, including over 500 endangered individuals of 10 species. Surveys for rare plants within the Malama Ki and Mauna Loa Mosaic areas were completed with 14 rare species located within the Mosaic area and two in Malama Ki. The high quality of habitat and vegetation within the Mosaic area indicates the area is a good candidate for

designation of a NAR.

On Maui, building the Olinda Rare Plant Facility continued with acquisition of water at the site and bids for the nursery construction plus oversight by a part-time horticulturist. The limiting factor has been scheduling construction around the nesting of birds at the adjacent Olinda Bird Facility. Genetic Safety Net meetings for the Maui County plant species is being funded by a federal Section 6 grant with coordination by Maui Nui Botanical Gardens. Funding for a two-year coordinator's salary has been secured from United States Fish and Wildlife Service (USFWS). For the Kanaio NAR fencing project, an environmental assessment was completed, the area to be protected with a deer proof fence was expanded, an archeological survey completed for the realigned area, an invitation to bid (IFB) was issued and a contractor was selected for the north east section of the fence. Out plantings of rare plant species were accomplished within a protected area of the Kanaio with invasive plant management and rodenticide control.

For the FY 06, the NAR staff and DOFAW staff will continue to support the plant restoration projects described above.

Research

In FY 05, 72 NARS Special Use Permits (SUP) were issued for research, educational field trips, large group hikes, and educational filming. Trends in research include a greater degree of genetic work, of looking at pollination mechanisms in plants, and of finding the factors in specific habitat needed to better design protected area management strategies. Two of the SUPs were for filming in Mauna Kea Ice Age NAR for educational use here and in New Zealand. In addition to permits issued, dozens of research and information enquiries were answered or directed elsewhere (other divisions/agencies, etc.). On occasion, after review by staff and commission members, some applications were rejected as unsuitable. There were no permits revoked this year as permit holders are getting better at supplying the required reports.

31 Protected Wildlife (Invertebrate) Permits were issued, the bulk of which were for native arthropods, largely surveys of specific genera or groups to investigate their current conservation status. Many of the researchers receiving permits formed an important early core of input and review for development of the State Wildlife Conservation Strategy, which for the first time recognized the need to include invertebrates. Previously native invertebrates were largely omitted from wildlife management plans.

Two Protected Wildlife (Invertebrate Threatened and Endangered) Permits were issued: 1) To Doctor (Dr.) Daniel Rubinoff of the University of Hawaii to continue to develop captive propagation protocols and strategies for *Manduca blackburni* (Blackburn's sphinx moth); and 2) To Dr. Michael Hadfield of the University of Hawaii Kewalo Marine Lab to continue field work, including radio tagging individuals and populations of *Achatinella* spp. (Oahu tree snails). This tracking provided data on individual's movements and overall health. Dr. Hadfield continues to successfully hold in captivity some of the last known individuals of several land snail species, along with a selection of other species.

Monitoring

Monitoring is necessary to measure the condition and status of natural resources within NARS as they change over time due to environmental factors, human activities and specific management programs. Different monitoring techniques are used, depending on the type of resource monitored and the level of information needed. Monitoring plots continue to be maintained in a majority of the reserves. Long-term monitoring and maintenance of over 35 miles of weed and ungulate transects was continued in 4 reserves on Hawaii, and 20 miles of ground-based ungulate and weed transect activity were monitored in the Oahu Reserves. In addition, Staff perform resource survey and monitoring as part of their daily work activities.

The data is compiled and maintained at both DOFAW and through Hawaii Biodiversity and Mapping Program (formerly the Hawaii Natural Heritage Program) database. The Heritage database continues to be refined to serve the practical needs of Staff. Data gathered in previous years is being entered into the database and used to direct management and generate reports. Heritage is working with scientists at United States Geological Survey (USGS) to evaluate data for long-term trends. More efficient means of gathering and recording data are being explored. DOFAW's in-house monitoring, Geographic Information System (GIS) and mapping capabilities were enhanced this past year with staff training and the purchase of appropriate software and equipment.

Public Outreach, Youth Activities, and Community Involvement

During FY 05, several education and outreach projects were accomplished supported by NAR funds and outside grants. A new resource for teachers titled "A Teacher's Guide to Nēnē, Hawai'i's Endangered State Bird" was completed and printed with the assistance of cooperators at the Honolulu Zoo and a grant from Anheuser Busch and the National Fish and Wildlife Foundation. Copies are now being distributed free to educators through DOFAW, the Honolulu Zoo, and other partners.

The Kaena Point NAR brochure was redesigned and reprinted in response to demand for the publication, which helps visitors to this Oahu NAR identify unique plants and wildlife they may see. It also clearly communicates rules, safety concerns and directions.

The first edition of the new DOFAW newsletter "Nā Leo O Ka 'Āina" (Voices of the Land) was published and distributed via print and electronic copies to over 2,000 subscribers throughout the state and nationwide. The newsletter features stories from DOFAW staff as well as partner

agencies and organizations. For additional information see

http://www.state.hi.us/dlnr/dofaw/announcements/DOFAW%20Summer%20newsletter_color_final.pdf

Artwork for two new wildlife posters was commissioned and work is ongoing to finalize layout and design in the Fall 2005. The posters are partially funded through a grant from the USFWS.

The Youth Conservation Corps (YCC) had another successful year with six teams on five islands including Oahu, Kauai, Maui, Molokai and Hawaii. A total of 69 youth participated. The Program lasted seven weeks and included a team trip to Kahoolawe for each team. The members contributed a total of 17,664 volunteer hours working on projects such as endangered species restoration, trail maintenance, out-planting, species monitoring, and invasive plant removal. For more information on the YCC, see <http://www.hawaiiycc.com>. Partners supporting the program include Kamehameha Schools and USFWS, among others.

The year-round Americorps component to YCC enrolled a total of 9 full-time members committing to work for a year (1,700 hrs each). The Program allows young adults to gain entry-level experience working alongside managers in the field. The Program was intended to serve as an extension of the summer YCC program and provide more in-depth training for youth interested in pursuing a career working in the natural resources conservation field.

Websites were maintained to provide: A virtual tour of each reserve and additional information to the public on the NARS mission, policies and procedures, contact information and permitting guidelines (see <http://www.dofaw.net/nars/>); the public and potential partners with information about the Watershed Partnership Program and how to become involved (see <http://www.state.hi.us/dlnr/dofaw/wpp/index.html>); and information for teachers and students through <http://www.state.hi.us/dlnr/dofaw/kids/index.html>, and <http://www.state.hi.us/dlnr/dofaw/kids/teach/index.html>

During FY 06, DLNR plans to publish two more editions of the newsletter (Winter and Summer). DLNR is also initiating a cooperative effort with the University of Hawaii and other educational institutions to bring together environmental education curriculum efforts into a more comprehensive program for Hawaii's schools. This will be a multi-year project that is currently in the survey phase.

DLNR will also be revitalizing the native plant and community garden located at its Kalanimoku office. During Fall 2005, DLNR will be involving volunteers in removing weeds, preparing the soil, and planting native plants (on the 100th Anniversary of Arbor Day.) This garden will provide an opportunity for learning about native plants in the center of urban Honolulu.

Infrastructure

Staff maintained approximately 582 signs throughout NARS, replacing existing signs where appropriate. New signage providing safety warnings, general information, resource information, or marking boundaries were installed or replaced in several reserves. Management shelters were maintained to facilitate management in remote areas of NARS throughout the State. Existing helipads were maintained to facilitate management and monitoring and to provide access for emergencies. Approximately 31 miles of existing trails and 22 miles of access roads were maintained in or leading to various reserves, primarily for management purposes. This included repair and maintenance to the existing boardwalk at Kaala NAR (Oahu). Alien plant control was a major activity along the trails to limit the spread of weeds to new areas. A new trail delineation system (totaling approximately ½ mile) was developed at Kaena Point NAR, using anchor rods and stainless steel cable, to keep people from leaving the trail and disturbing seabird

nests. Approximately 149 vehicle barriers (boulders) were installed at Ahihi-Kinau NAR to manage visitor numbers and improve public safety. Existing vehicle barriers at Manuka NAR and Kaena Point NAR were monitored and maintained as needed to prevent dumping or harm to sensitive resources. Five portable toilets were installed just outside of Ahihi-Kinau NAR to address the public health problem caused by the number of visitors and the lack of sanitation.

Recreation

Although the primary mission of NARS is resource protection, the Reserves provide recreational opportunities for residents and tourists in pursuits such as hiking, photography, kayaking, diving, nature viewing and hunting. Some of the most popular areas for these activities are within NARS. Providing and maintaining roads, trails, boardwalks, shelters, interpretative signage and brochures enhance public awareness, access and safe enjoyment of NARS.

The growing number of visitors to NARS, due to increased tourism numbers and the widespread use of visitor publications promoting these areas, is an emerging problem. While the activities at Ahihi-Kinau and the Department's response has received attention (for more information, please see the DLNR Report to the Legislature on HCR 88), the management issue of controlling public recreational use for the protection of natural resources and for public safety purposes is relevant across the State. For example, at Kaena Point, increased numbers could impact seabird nesting populations; at Kahaualea (Hawaii), visitors attempting to hike to Puu Oo vent get lost or injured on the lava. Currently, the Department, in collaboration with the NARS Commission, is reviewing the existing administrative rules and existing management plans to develop ways to facilitate better management of recreational use.

Cultural Resource

Staff recognizes that many important cultural sites are located in the Reserves, such as the Adze Quarry in Mauna Kea Ice Age NAR. In order to better perform our stewardship duties of protecting these sites, staff have begun contracting for cultural assessments of NARS.

In the present year, contracts will be executed to conduct cultural assessments for the Hamakua area and the Puna area on the Big Island. This work will be valuable in the long-term management of the areas, providing better information on the link between the natural and cultural resources of an area, improving management and allowing for better consideration of potential cultural impacts when evaluating conservation actions. It is the Department's long-term goal to include a cultural component in all management plans as they are updated and revised.

Support of the NARS Commission

The NARS Commission (Commission) held four meetings and two Commercial Use Subcommittee meetings over the past year. Topics ranged from: 1) commercial use and other concerns at Ahihi-Kinau Natural Area Reserve; 2) SUP request from the US Army to conduct work in the three Oahu Natural Area Reserves (Mt. Kaala, Kaena, Pahole) as off-site mitigation for continued Army training in Makua; 3) approval of Puu Kukui Long Range Management Plan as part of renewal process for continued enrollment in NAPP; 4) presentation on the planned

development of a State Comprehensive Wildlife Strategy; and 5) planning for a Strategic Planning Meeting between staff and Commission members. Subcommittee meetings addressed permit guidelines with commercial use being incorporated into guidelines and application forms.

2. COMPLIANCE WITH CHAPTER 42F, HRS, REQUIREMENTS

All NARS management and YCC activities were in accordance with the provisions in Chapter 42F, HRS.

3. ANALYSIS OF THE PROBLEMS AND ISSUES ENCOUNTERED

Protecting natural areas and ensuring the future of rare native ecosystems and species requires sustained management actions as described above. Actions such as weed and feral animal control and fire prevention must be conducted over the landscape as feral goats, pigs, deer, and sheep, invasive weeds, and fires do not recognize ownership boundaries. The emergence of watershed partnerships on every island across the State have contributed greatly to the State, Federal and private partners' ability to appropriately manage these large forested areas. However, coordinating and assisting the conservation efforts of these partners presents challenges and adds additional responsibilities on the already understaffed NARS crews.

Still, with short-term federal and state funding, the NARS Program has been able to partner with the Pacific Cooperative Studies Unit of the University of Hawaii to supplement important NARS management work and to assist in the coordination of watershed management actions, including invasive species control, fence construction, field surveys, and rare plant collection, propagation, and out planting. This partnership with the University is critical, providing learning opportunities to young professionals in the biological sciences and giving the State much-needed assistance with

on-the-ground conservation. In addition, partnerships with other landowners and volunteers provide another method by which the NARS Program is working to meet conservation needs.

Controlling the threats of invasive weeds and feral animals remains a challenge. Feral animals damage native vegetation, contributing to erosion and damaging watershed capacity. At the landscape level, control of feral animals is possible using a combination of public hunting, exclusion by fences, staff control, trapping, snaring, and aerial shooting. Building and maintaining fences, although effective, is very expensive. For remote areas and areas with steep terrain, aerial shooting is often the only effective method of controlling feral animal numbers.

Implementing aerial control missions remains a challenge due to safety concerns, cost, access, and liability issues. Revisions to DOFAW's aerial control operational plans, training, and right-of-entry agreements should help staff in conducting aerial shooting in a safe and effective manner.

The recent expansion of Invasive Species Committees (ISCs) contributes positively to management of NARS in the long term by preventing new introduction of invasive species through various prevention, control and research programs. However, NARS and watershed partnerships still require significant fiscal support to control established invasive species (such as fountain grass or kahili ginger) and prevent their spread into native ecosystems and important

watershed areas. It is important to recognize that the actions by NARS and watershed crews complement, and do not duplicate the efforts of the ISCs.

4. STATUS OF PUBLIC HUNTING OPPORTUNITIES

Under the NARS Management Policies, strategies to reduce populations of non-native animals to the lowest possible level are to be employed. Public hunting is a primary control option for unfenced areas within NARS, although hunting is not managed on a sustained-yield basis. Alternative control methods of game animals (including fencing, trapping, snaring, and aerial shooting) are used in specified areas where public hunting does not afford adequate control to reduce the population and/or activity levels and prevent harm to the natural resources. Increased public hunting opportunities occurred statewide as a result of construction and maintenance of improved access roads and trails.

5. FINANCIAL REPORT

NARS, on lands under State jurisdiction, is supported through the General Fund, Appropriation 047 (see Table A). In FY 05, \$1,094,015 was appropriated with total expenditures of \$1,081,837 -- \$647,534 in personnel costs and \$434,303 in operational costs. This funding was supplemented by Federal Endangered Species and State Watershed grants on a project by project basis.

6. PLANS AND MANAGEMENT OBJECTIVES FOR THE NEXT FISCAL YEAR

Where appropriate, reserve management activities will be guided by management plans. Activities in several reserves will incorporate recommendations from working groups. Plan implementation will focus on preventing, eliminating, or controlling the spread of non-native plants and animals that have a detrimental effect on native ecosystems. Other management considerations will include local community concerns, monitoring, research, public education, volunteer support, and improving access. Youth programs that provide hands-on experiences will continue to be a high priority.

For all DOFAW branches, partnerships will continue to play an important role in the management of the reserves, with resources shared to manage across property boundaries. Plans and management objectives for the next fiscal year include completion of planned fencing projects; continued collaboration with watershed partnerships to cooperatively manage areas on a landscape level; and securing additional permanent dedicated staffing. In addition to regular management activities, several specific projects will be initiated this year, in part due to DOFAW's success in obtaining several federal grants and the Legislature providing state cost-share from the Fund:

Hawaii: In the next fiscal year, the NARS Program on the Island of Hawaii hopes to complete construction of three management units in the Kipahoehoe NAR. These units will contribute to protecting the mauka 1,500 acres of that NAR. Continuing ongoing management in Manuka NAR will be a goal of the year as well as continued work on an updated management plan and environmental assessment. Primary concerns for management in Manuka include but are not

limited to fountain grass control, testing for coqui frog control, and feral animal removal throughout the NAR. In addition, the program was awarded a federal grant to fund acquisition of the remaining privately owned inholding parcel within Manuka. Continued cooperative work with the Olaa Kilauea Partnership will promote management in the Puu Makaala NAR, including ongoing feral animal removal in the cooperative Wright Road Unit as well as invasive species control and rare plant propagation. The Kohala Watershed Partnership (which includes Puu O Umi NAR) is close to adopting a final draft management plan for the partnership area and corresponding environmental assessment. Completion of these projects in the upcoming year will allow the start of on-the-ground management activities and the enhanced protection of watershed partnership lands. In addition, the possible expansion of existing NARS and the development of new NARS on the Big Island to protect sensitive natural resources not currently protected through NARS will be evaluated and explored during the coming year.

In anticipation of additional NARF funding, staff hopes to fund projects for which current funding could not support. By stepping up efforts in existing management activities, managers will be able to look further into the future and develop better long-range goals that are also fiscally achievable. Hawaii Island NARS increased involvement in cooperative management projects has created a need for additional resources and funding. As project areas grow, there is a corresponding need for increased staff and infrastructural resources to maintain efforts. The additional NARF funding will significantly enhance the capacity of the State to manage the NARS for long-term protection.

Maui: The NARS Program on Maui will continue to implement cooperative fence building projects in conjunction with the East Maui and West Maui Mountains Watershed Partnerships, including fencing at Hanawi NAR (East Maui) to fully enclose the lower 5,000 acres and fencing of the Kahakuloa Section of the West Maui NAR to protect approximately 600 acres. On Molokai, a cooperative fence building project with Kalaupapa National Historic Park will finish the enclosure of the upper half of Puu Alii NAR (approximately 800 acres) including improving the existing pig fence (3' high) to deer fence (6-7' high), as well as beginning to fence the lower, makai half of the Reserve, protecting another 800 acres. A contract has been awarded for fence construction at Kanaio NAR, with work to begin this year, protecting rare dry land forest and providing future out planting opportunities. The NARS Program will work to implement new aerial shooting policies to conduct feral animal control in priority locations on Maui and Molokai. NARS staff will also continue implementation and administration of the on-going Hawaii Tourism Authority (HTA) grant (year two of three years funding) at Ahihi-Kinau NAR. This grant, which funded presence of on-site rangers seven days a week, is providing needed resources to mitigate effects of high visitor numbers within that NAR including intensive site management and a visitor information table. NARS staff also continues to facilitate meetings with the Ahihi-Kinau/Keoneoio Advisory Council regarding natural and cultural resources within the NAR and adjacent lands and is currently working on developing a draft management plan for the NAR. Other activities include obtaining additional office space at base yard and provide facility on site at Ahihi-Kinau NAR, and providing vehicles and equipment for new employees.

Oahu: The NARS Program on Oahu will begin construction of nearly two miles of fencing to protect sensitive natural resources in Pahole NAR and will solicit bids for the construction of an

additional two miles later this year – initial bids were higher than available funding so the project had to be divided. Rare plant and animal monitoring combined with small animal control and invasive plant control will continue at Kaena Point NAR. Feral animal control, weed control, and maintenance of the boardwalk will continue at Kaala NAR. NARS staff plan to hold a public hearing on the proposal to include the upper portion of Poamoho section of Ewa Forest Reserve into NARS and with the pending acquisition of Manana Valley, will explore the potential of adding a portion of this valley to NARS. Addition of either or both will provide increased protection for core habitat and watershed in the Koolau Mountains. NARS staff will continue work with United States Army to facilitate their implementation of the Makua Mitigation Plan, will continue cooperative work with the Board of Water Supply and other partners in the Waianae Kai forest and watershed area, will continue involvement with the OISC, and will continue implementation of the successful rare plant program.

Kauai: The NARS Program on Kauai will implement a fencing project in Kuia NAR, continue maintenance of existing rare plant enclosures, continue support of the successful rare plant program, and seek to fill the vacant NARS Specialist position. In addition, the Program will hold a public hearing on the proposal to expand Hono o Na Pali NAR, which would create a contiguous area for enhanced resource protection from Mount Waialeale to the coastline. Kauai staff played an important role in the developing the recently created Management Plan for the Kauai Watershed Alliance, and will continue to be involved in the implementation of this plan which will lead to increased protection of critical watershed and core habitat for rare and endangered species.

For FY 06, the NARS staff and DOFAW Forestry staff will continue to support plant restoration projects. To reduce paperwork and promote efficiency, the Rare Plant Program is moving to consolidate island projects under one umbrella project per island

The YCC Americorps Program will continue this year and will provide 12 Americorps interns the opportunity to work full-time with staff on 5 islands. The YCC Program is planning to continue with similar numbers (80) of students enrolled on 5 islands.

The Governor signed into law legislation that became the Legacy Lands Act (Act) at a ceremony in her office on June 23, 2005 (Act 156, Session Laws of 2005). This historic action will increase the level of funding for, among other things, NARS. In fact, until the enactment of the legislation, the NARS Program was not directly funded from the Fund, but relied upon General Funds and federal grants. Historically, NARS has been underfunded compared to other private and federal conservation areas. The Commission and NARS staff are presently preparing strategic plans to review and update previously identified management needs (including fencing, animal removal, and weed control within the reserves) with the expectation of adequate funding finally being available, starting in FY 07 and onward into the future.

The Commission and Department are also evaluating future additions to NARS on state lands with at least 2 extensions and 2 additions expected to begin the public review process in FY 06.

The Act also provides unique opportunities to acquire (outright purchases or conservation easements) and protect undeveloped lands to be a natural legacy for generations to come. The

measure requires 10% of the real estate Conveyance Tax collected to be deposited into the Land Conservation Fund. NARS staff presently are leading or assisting the Department in acquiring several natural area quality parcels, using federal land acquisition grants, and hopefully cost-share from the Land Conservation Fund. These additional protected areas will contribute to a legacy of biodiversity for future generations and positively impact the quality of life in Hawaii.

NARS is an irreplaceable legacy not only for Hawaii, but also for the entire world, as these areas are often the last remaining habitat for native species found nowhere else on Earth. The funds provided by the Legacy Lands Act will be committed to protect and manage natural areas so that future generations can enjoy, study, and experience a very special natural heritage.

NATURAL AREA PARTNERSHIP PROGRAM (NAPP)

PURPOSE

This innovative Program, established by the Legislature in 1991 through Act 326, provides state-matching funds on a 2:1 basis with private funds for the management of natural resources on private lands permanently dedicated to conservation. This Program complements the existing NARS by providing long-term protection and management of unique natural resources on private lands.

NAPP provides support for a full range of management activities to protect, restore and enhance significant native resources and geological features. NARS staff administers NAPP, although the private applicant carries out all on-the-ground activities. Six-year, long-range management plans approved by the BLNR provide funding and direction for each NAPP preserve. Since 1993, a portion of the Conveyance Tax, which is levied each time real estate property is bought or sold, has funded the Program. For more information on NAPP, see:

<http://www.state.hi.us/dlnr/dofaw/napp/index.html>.

Beginning in FY 01, via Act 269, Session Laws of Hawaii 2000, the Natural Area Reserve Special Fund has expanded its scope to include providing year-to-year funding for projects undertaken in accordance with watershed management plans negotiated with private landowners (watershed partnership projects). Watershed partnerships are an efficient way to manage the natural landscape against threats to the health of the forest and to more effectively protect the water resources of the State and utilize these areas for the benefit of Hawaii's citizens.

In FY 05, this Program provided funding and technical support to protect over 1,000,000 acres in several watershed partnerships: East Maui Watershed Partnership, West Maui Mountains Watershed Partnership, and the Leeward Haleakala Watershed Restoration Partnership on Maui; Koolau Mountain Watershed Partnership and Waianae Kai Watershed Partnership on Oahu; Lanaihale Watershed Partnership; East Molokai Watershed Partnership; Kauai Watershed Alliance; and the Olaa Kilauea Partnership and the Kohala Mountain Watershed Partnership, both on the island of Hawaii. Projects focus on alien species control and fencing. For more information on Watershed Partnership Projects, see:

<http://www.state.hi.us/dlnr/dofaw/wpp/index.html>.

1. DESCRIPTION OF ACTIVITIES AND ACCOMPLISHMENTS

NAPP Preserves

KANEPUU PRESERVE

Landowner:

Dole Food Company, Inc.

Managing Partner:

**The Nature Conservancy of
Hawaii (TNCH)**

Entered NAPP:

FY 92

The Kanepuu Preserve on Lanai comprises 590 acres in seven distinct units and represents the last major remnant of a dry land forest community, which once covered large portions of Maui, Lanai, Molokai, and Kahoolawe. Ten rare plants, six of them federally listed, have been reported from the Preserve. Protection from axis deer, control of non-native plant species, and the use of the preserve as a focal point for dry land forest restoration research have been the primary management activities. The fences deteriorated at a more rapid rate than expected so two one-acre enclosures within the Kanepuu unit were replaced, and Kanepuu and Kahue unit boundary fences were checked and repaired. Ike Aina has assisted in management of the Preserve by implementing selective weed removal and erosion mitigation. In FY 06, the Conservancy plans to continue fence maintenance and weed control. Staff may also build the capacity of interested groups to assist with management of the preserve. Public outreach efforts include a self-guided nature trail.

KAPUNAKEA PRESERVE

Landowner:

Pioneer Mill Company, Ltd.

Managing Partner

TNCH

Entered NAPP:

FY 92

This 1,264-acre preserve is a component of regional protection efforts for the important watershed and native ecosystems found in the West Maui Mountains. Containing 11 native communities, 31 rare species of plants (ten federally listed), and four rare snail species, the Preserve's upper elevations are recognized as among the highest quality native areas in the State. The primary management accomplishments for Kapunakea Preserve in FY 05 were: 1) Discovery of four new rare plant locations during an in-house rare plant survey of Honokowai gulch, 2) Out planting of three rare or endangered plant species, 3) Removal of *Tibouchina herbacea* from intact bog systems, removal of ten pigs, and 4) Maintenance of ungulate levels near zero for fifth consecutive year. Although ungulate activity levels have been lowered in the past several years, ungulate control efforts remain a high priority in FY 06 to ensure that activity levels remain low.

PELEKUNU PRESERVE

Landowner:

TNCH

Managing Partner:

TNCH

Entered NAPP:

FY 92

The Pelekunu Preserve, located on the north shore of Molokai, is a 5,759-acre preserve

established to protect the free-flowing Pelekunu Valley stream system, one of the best in the State. It is also part of a larger regional management effort that provides protection to over 22,000 contiguous acres on Molokai. Pelekunu Stream contains nearly all the native Hawaiian freshwater fish, crustacean, and mollusk species. In addition, 28 rare plants, six endemic forest birds, and two endemic land snail species have been reported from the area. Protection of the watershed by reducing ungulate damage and reducing the spread of non-native plants are the primary management activities. Feral ungulate control and monitoring in the back portion of the preserve remained the primary focus in FY 05. Public hunting continued to be utilized through the Molokai Hunting Working Group. During FY 05, 40 pigs were removed through ground hunting. Public outreach programs continued through public lectures and hikes, with the support of interns, Alu Like, and summer youth programs. In FY 06, TNCH will continue to conduct staff-led volunteer hunts along with monitoring for ungulate activity in the preserve. Weed control efforts will focus on manual control of habitat-modifying weeds like the African tulip tree and investigating ways of incorporating bio-control on *Clidemia hirta*. TNCH is helping the Hawaii Department of Agriculture field-test a suitable bio-control agent for *Clidemia* on private lands near the preserve. In addition in FY 06, public outreach efforts will continue with public lectures, preserve overlook hikes, and summer youth programs.

PUU KUKUI WATERSHED PRESERVE

Landowner:	Maui Land & Pineapple Co. (ML&P)
Managing Partner:	ML&P
Entered NAPP:	FY 94

With over 8,660 acres, the Puu Kukui Watershed (PKW) Preserve is a critical component of regional protection efforts as a founding member of the West Maui Mountains Watershed Partnership's (WMMWP) 48,000 contiguous acres. 14 native natural communities, two of them rare, are found in the Preserve along with over 40 rare plant species and six endemic species of land snails. Primary management efforts were focused on the removal of feral ungulates and control of non-native plant species. Feral ungulate control efforts were increased resulting in low to no animal activity levels observed in the high-priority upper elevation areas of the Preserve. Although the Preserve is off-limits to public hunters, ML&P maintains a private hunting permit program which allows anyone with a state hunting license to obtain a permit to hunt feral pigs year-round with no bag limit in select areas of its Honolua Plantation. As a result, 33 pigs were caught in the pineapple fields and gulches below the Preserve boundaries by 15 hunters with permits from ML&P while only 27 pigs were caught by Preserve staff mauka of strategically-placed boundary fences. Small mammal trapping was conducted for rats in several locations. Control measures continued for populations of high-priority non-native plant species, including *Clidemia*, *Psidium*, and *Tibouchina*. Limited control and monitoring of the cannibal snail continued at various elevations in the Preserve. PKW Preserve staff have assisted WMMWP staff in the field with construction and installation of feral animal (pig) control fences along the Kahakuloa Game Management Area (GMA) and NAR boundary and along the County of Maui Department of Water Supply boundary with the West Maui NAR on several occasions.

A number of plant survey trips documented the presence of new populations and new species records for the Preserve. Several research projects were carried out in the Preserve with

logistical support provided by Preserve staff. Protection of the fragile bog ecosystem was enhanced through upgrading and adding to the boardwalk in the high-elevation region of the Preserve to replace existing trails. In FY 06, a mid-elevation plant nursery will be completed next to the Haelaau cabin in order to begin restoration efforts of the native loulu palm *Pritchardia forbesiana*, a West Maui endemic. Six 8-foot high multipurpose (pig/deer/human) control fences are planned for installation below the Preserve boundary to create a buffer zone of currently undeveloped agricultural-zoned land and prevent future axis deer incursion into the upper watershed. Additional multi-purpose fences are planned annually until the entire lower Preserve is protected by a buffer zone of undeveloped or low impact agriculture uses, such as tracts of select native hardwoods.

The PKW Manager continues to serve on several committees as chair of the Maui Invasive Species Committee (MISC), vice-chair of the Coordinating Group for Alien Pest Species (CGAPS), and as a member of WMMWP's Executive Committee.

KAMAKOU PRESERVE

Landowner:

Molokai Ranch, Ltd.

Managing Partner:

TNCH

Entered NAPP:

FY 95

The 2,774-acre Kamakou Preserve helps increase regional protection efforts for the important watershed and native communities found in East Molokai. 40 of the plant species are rare, of which 23 are listed as federally endangered. In addition, the Preserve protects habitat for five native forest bird and five rare native land snail species. The primary management focus is to prevent degradation of the native forest by reducing feral ungulate damage, limiting the spread of non-native habitat-modifying plants, and preventing wildfire. Since 1998, feral ungulate control activities have utilized volunteer hunters from the Molokai community. Staff and volunteers control non-native plant species and assess management efforts by monitoring transects. Review of alien species prevention protocols with staff, hikers, hunters, volunteer groups, and researchers remains an ongoing activity. These protocols are communicated through direct contact and public outreach programs, including displays at Hoolehua Airport. In FY 05, feral ungulate control activities included: live pig trapping (resulting in six captures) and volunteer hunting from the Molokai community (reported one pig and 17 goats). Staff and volunteer groups removed *Clidemia*, strawberry guava, New Zealand flax, black wattle, Christmas berry, rose, ginger, and blackberry in the preserve. Conservancy staff provided logistical support for several research projects conducted in the Preserve. Public outreach programs continued to be important both on- and off-site. For FY 06, live trapping of pigs and the construction of the Kawela fence extension for the East Molokai Watershed Partnership will be the focus of ungulate control efforts. The bulk of staff and volunteer time will be spent on controlling habitat-modifying weeds in the preserve. Other activities will include supporting researchers and conducting community outreach.

MOOMOMI PRESERVE

Landowner:

TNCH

Managing Partner:

TNCH

Entered NAP Program:**FY 95**

This 921-acre preserve on the northwest shore of Molokai contains one of the largest and best remaining dune ecosystems in Hawaii. Moomomi contains eight rare plant species and one rare native plant community. Green sea turtles, wedge-tailed shearwaters, Laysan albatrosses, and Hawaiian monk seals are known to use the area. In addition, Moomomi contains significant archaeological, paleontological, and cultural resources. In FY 05, trapping of feral cats, mongoose, and rats provided for safer nesting grounds for the steadily increasing population of wedge-tailed shearwaters. Fences were also maintained to prevent domestic cattle from entering the Preserve. Non-native plant control focused on removing kiawe. Protection of important cultural sites continued through cooperative efforts with DLNR's Historic Preservation Division and local community groups. Community outreach programs included preserve hikes and off-site activities. In FY 06, staff will continue to conduct predator control, fence surveys, and monitoring of the wedge-tailed shearwaters' nesting colony. In addition, staff will also control habitat-modifying weeds and conduct community outreach activities. A community partnership between Alu Like, Kalaupapa National Historical Park, Kualapuu Ranch, and TNCH to create a native plant enclosure is also planned. The purpose of the enclosure is to reintroduce three significant native plants back to the Preserve: yellow wiliwili, ohai and *Marsilea* fern.

WAIKAMOI PRESERVE**Landowner:****Haleakala Ranch Company****Managing Partner:****TNCH****Entered NAP Program:****FY 95**

This 5,230-acre Waikamoi Preserve helps increase regional protection efforts for the important watershed and native species habitat found in the East Maui Watershed Area. Waikamoi provides habitat for seven native bird species, all of which are federally listed as endangered. Fourteen native natural communities, two of them rare, are found in the preserve along with 30 rare plant species. The primary management accomplishments for Waikamoi Preserve in FY 05 were: 1) Repair and maintenance of Waikamoi, Honomanu, and Koolau Gap boundary fences; 2) Replacement of .75 miles of fence in unit 1A; 3) Removal of 38 pigs within Waikamoi, Honomanu, and Koolau Gap; 4) Removal of three deer along Haleakala Ranch boarder; 5) Removal of ginger, gorse, pines, blackberry, blackwood acacia and other incipient plant species; and 6) Out planting of the endangered *Geranium arboreum* shrub. A new fern species was discovered during a rare plant survey of Kopiliula, East Maui. Another accomplishment in FY 05 included educating 1,093 community members and visitors about Waikamoi Preserve and enlisting 76 volunteers who contributed over 1,152 hours of stewardship service. Outreach activities continued with volunteer service trips, and staff participation in community events such as the annual Makawao Paniolo Parade. Implementation of natural resource monitoring on both a preserve- and watershed-wide scale will be a high priority for FY 06. Volunteer service trips continue to provide the public with an opportunity to help control weeds in Waikamoi. Hikes offered by Haleakala National Park in the Preserve continue to educate the public on the importance of watershed management.

NARF Watershed Partnership Projects

East Maui Watershed Partnership

During FY 05, project services were provided by a total of eight personnel. This includes a project coordinator, public relations associate, and six field staff [supervisor, two crew leaders, three field technicians]. Prior to the year ending, two field technicians voluntarily left the project to support the State's NARS and the WMMWP project. The East Maui Watershed Partnership (EMWP) is currently in the process of hiring up to two field technicians and one field crew leader.

Between July 1, 2004 and June 30, 2005, the EMWP:

- Continued fence construction along the 3,600ft contour of Haleakala. Over 1.5 miles of fence was installed.
- Established monitoring trails along and above fence lines to determine sources and the extent of ungulate activity and the presence of invasive plant species.
- Implemented threat control programs to remove feral animals and invasive plant species in the managed lands of the East Maui Watershed.
- Utilized hunters for two consecutive days to assist animal control program.
- Supported partner agency's (Haleakala National Park, DLNR, and TNCH) resource management programs.
- Participated in outreach events and conducted presentations to over 500 students and 1,000 members of the community.
- Hosted an art contest, celebrating the flora and fauna of East Maui, and a watershed symposium for the Hawaii Association of Watershed Partnerships (HAWP).

In FY 06, the crew will continue activities outlined in the management plan, particularly the construction of the contour fence and support infrastructure, such as required management trails and shelters and public outreach initiatives. Programmatically, the Project will raise \$500,000 to cover all project expenses, revise the monitoring plan, begin revising the Management Plan and prepare a Final Environmental Assessment to propose expanding managed lands in the EMWP by up to 13,000 acres.

The Maui Forest Bird Recovery Project (MFBRP) was funded as a research component of watershed management. Hanawi NAR and adjacent EMWP lands supports much of the State's finest wet native forest as a result of successful proactive management efforts by DOFAW and its Partners. Approximately 2,000 acres have been virtually ungulate-free for more nearly eight years, resulting in dramatic regeneration of forest understory components and overall biological integrity of the watershed. Five endangered species are found here and nowhere else in the world! The objectives of MFBRP is to conduct several actions that have been identified as priority needs to ensure protection and recovery for native birds and their native forest watershed habitat. This work implements the State's recently adopted Comprehensive Wildlife Conservation Strategy (2005).

During FY 05, predator control grids were maintained and native bird populations were monitored for, among other things, the presence of introduced diseases. In addition, nest monitoring and mist netting and resighting operations for the collection of demographic data was conducted. Development of community-based support for endangered forest bird recovery activities and for ecosystem based management practices was continued. The Project has received a significant amount of media coverage both locally and internationally, particularly with regards to the capture of the Poouli. This has helped raise local and national awareness about the plight of Hawaii's critically endangered species. Searches for the two remaining birds continued through 2005. Additional details are available at <http://www.mauiforestbird.org>

West Maui Mountains Watershed Partnership

In FY 05, **West Maui Mountains Watershed Partnership**(WMMWP) staff, along with on the ground partnership support from ML&PTNCH, Maui DOFAW, prioritized fence construction within the Watershed, implemented animal control efforts, controlled non-native weed species, and implemented other actions identified in the management plan. A new coordinator was hired in July and a replacement program and data assistant was hired in March to average 3.5 full time staff members.

Approximately 1.0 miles of fence was built within West Maui NAR (Kahakuloa section [Kahakuloa NAR]) for its protection from feral ungulates. Previously built strategic fences were maintained to control the ingress of feral ungulates throughout the watershed. The combination of fencing with hunting and trapping continues to be effective in reducing feral pig, goat and cattle populations although more is needed. Considerable animal control efforts have been spent from West Maui NAR (Panaewa section) and north through state and private lands to the TNCH's Kapunakea Preserve. The remnant population of cattle in the Hanaula area has been reduced. Support of DOFAW's aerial shooting program and scouting has aided in the elimination of feral goats in the Ukumehame area. WMMWP scouting reports have been beneficial to hunting efforts by partners as a supplement to crew control activities on private lands.

Five monitoring transects were surveyed in September for weed distribution and feral ungulate disturbance in the watershed including in West Maui NAR in both the Panaewa and Kahakuloa sections. This monitoring and scouting has resulted in increased control efforts in these areas. Transect data is being added to the GIS database to aid in mapping and identifying priorities for invasive weed management.

In FY 06, a new crew supervisor and two field assistants have been hired to total five full time staff. WMMWP plans to continue fencing to reduce threats from feral ungulates. To this end, WMMWP will continue to separate the Kahakuloa NAR from the Kahakuloa Forest Reserve along their adjoining boundary. Upper and mid elevation strategic fences totaling 800 meters in length will also be built to further safeguard gradients of pristine native forests and bog habitats within Kahakuloa NAR and adjoining Department of Water Supply (DWS) and ML&P lands. WMMWP will also build a 1,600 meter fence between ML&P, a member of the NAPP, and the Kahakuloa section of West Maui Forest Reserve to protect ML&P's Puu Kukui Preserve and portions of Kahakuloa NAR. Animal control activities will be increased above existing and new

fences. This will include the elimination of the remaining cattle in Hanaula, a reduction of feral pigs in state and private lands in between Panaewa NAR and TNCH parcels, continued control on DWS lands and the beginning of animal control in Kahakuloa NAR. Weed mapping and control efforts over the entire landscape will be enhanced. WMMWP will also be attempting to protect a small critically endangered *Diellia erecta* population in Ukumehame, and collecting genetic seed stock from threatened *Erythrina sandwichensis*. WMMWP may also expand on the ground efforts by enlisting volunteers through the Americorps program and adding additional field staff. With the expected increased resources and funding for WMMWP from the Fund as a result of the Legacy Lands Act, the Department plans to expand fencing, animal control and weed control efforts. Projections for the next five years indicate a need for 13.5 miles of fence including some boundary fence and upwards of 50 strategic fences to deal with current or perceived ungulate threats. At least a two fold increases in the area covered for animal control will be required to cover newly fenced areas and dynamic issues such the expansion of Axis deer populations on West Maui.

East Molokai Watershed Partnership

Feral ungulates, particularly goats, impact the East Molokai Watershed Partnership (EMoWP) area, damaging vegetation and causing erosion throughout the watershed. The EMoWP focused a lot of time on planning for the Kawela/Makolelau fence, including going through a contested case proceeding administered by DOFAW. The proposed fencing extends the original Kamalo/Kapualei fence by 3.5 miles and joins the Kamakou east boundary fence. The vegetation above the Kamalo/Kapualei fence has improved dramatically since its installation in 2000. In the Puu Haha gap, the last 300 feet on the bottom east side of the gulch was fenced with conventional fence, while the Hina gulch used a new type of “slinky” fence. Ongoing goat and pig hunts have resulted in 152 goats and 40 pigs removed. Approximately 75% of a ten acre blackberry patch has been treated in Mooloa, Kamalo. The Partnership has also helped with USGS’s plan to set up stream gauges at Kamalo and Kawela Streams. Approximately 1,500 hours of TNCH staff time, 600 hours of volunteer time and 100 hours of partner time spent on EMoWP projects. In FY 06, EMoWP plans on completing the Kawela/Makolelau fence and starting a community hunt program at Kawela similar to the Kamalo hunt program. The Partnership also plans to complete landowner “right of entry” legal documents required by DOFAW for aerial shooting activities.

Lanaihale Watershed Partnership

The Fund supported the acquisition of a four-wheel drive vehicle for use by Partnership staff. Due to the terrain around Lanaihale (steep and muddy), access to the intact forest to be protected by fencing and management is impossible without a reliable four-wheel drive vehicle. Acquisition of the vehicle allows conservation staff to implement projects (fencing, invasive species control) funded by other state programs (Forest Stewardship), federal programs, and private funding.

Olaa Kilauea Partnership

The Olaa Kilauea Partnership (O-KP) completed planning and environmental compliance for the

6.5 mile Keauhou Upper Boundary fencing project to protect 15,000 acres from mouflon sheep and enhance watershed protection and restoration. Partnership and DOFAW staff cooperated to mark the fence alignment and do archeological and biological surveys along the proposed fence corridor. The Partnership is planning on completing construction of this fence next year and initiating feral animal control in the area. Other planned projects include completing feral animal control work in two additional fenced units (Wright Road and South Boundary) that will protect over 4,000 acres of upper elevation rainforest. A cultural survey of the region was completed to assist in compliance regulation as well as identifying cultural sites for protection efforts.

Koolau Mountains Watershed Partnership (KMWP)

The KMWP Coordinator was hired in April 2002. Since that time, the Coordinator worked towards establishing KMWP as a functional organization and implementing the KMWP Management Plan. Infrastructural support, including vehicular transport, technology needs, and office supplies, have been established in DLNR's Waimano Baseyard. Following the infrastructural set-up, the KMWP Executive Committee, in conjunction with the Coordinator, developed a Two-Year Action Plan, which the Coordinator has been tasked with implementing. A summary of the coordinator's activities can be found at <http://www.state.hi.us/dlnr/dofaw/wmp/koolau/KMWPMMP.PDF> as Appendix A.

Some of the 2005 Highlights for KMWP include: 1) Development and launch of the Hawaii Association of Watershed Partnership-KMWP website; 2) Ala Wai Controlled Pig Hunt and ongoing restoration projects in Manoa and Makiki; 3) Hiring of the Northern Koolau Pig Control Project Coordinator; 4) Addition of the Pacific Cooperative Studies Unit as a KMWP Associate Partner and University of Hawaii-Manoa/Lyon Arboretum as a landowning partner to KMWP; 5) Establishment of OhuOhu Koolau, Inc., a nonprofit to assist KMWP toward achieving its goals; 6) Designation of landscape-level KMWP priority watershed areas; 7) Commencement of the invasive weed surveys; and 8) Final approvals acquired for Helemano fence construction. KMWP has developed an action plan for FY 06, which can be found at <http://www.state.hi.us/dlnr/dofaw/wmp/koolau/KMWPMMP.PDF> as Appendix B. The KMWP FY 06 Action Plan builds upon the progress established within the last few years with 3 programmatic foci: 1) Partnership Coordination, 2) Project Planning and Implementation and 3) Monitoring. Major objectives for FY 06 include: development of a comprehensive ungulate management strategy for the KMWP area; "umbrella" Environmental Assessment and Conservation District Use Permit for priority ungulate fences, including the Peahinaia fence project; construction of the Helemano fence; initiation of the Northern Koolau Hunting Program, completion of the Manoa and Makiki Community-based native species out planting programs; out planting of 20,000 plants in Manana Valley Fire Rehabilitation Project; baseline resource monitoring surveys and continuation of our landscape level, site-based weed survey of priority areas.

Additional funding would allow KMWP to tackle other priority projects, such as: fence maintenance for Opaepa fence enclosure (150 acres) + newly constructed fences; initiation of a pig trapping programs along forested-urban/agriculture interface zones (1000 acres); additional Controlled hunts in the Ala Wai Watershed Mauka Restoration Project Controlled Hunt program

(Phase III, 750 acres); Northern Koolau Pig Control Project in Kawaihoa (5,000 acres) and other areas (5,000 acres); development of field infrastructure (7 cabins/shelters) for natural resource management in Koolau Range; watershed improvement, weed control and monitoring projects (3,000 acres) on the North, Middle and Southern Koolau Range; development of GIS (remote sensing) vegetative cover maps for five critical watershed areas (1,000 acres); additional biological surveys to identify rare elements and priority weed locations in priority locations such as Kaluanui to Kaipapau, Central Oahu section of Ewa Forest Reserve and Waiawa; development of a GIS-based map of critical grasslands, eroded or high-potential soil erosion sites; and initiation of priority forest restoration project areas (500 acres) to stabilize exposed mineral soil areas to abate nonpoint source pollution.

Leeward Haleakala Watershed Restoration Partnership

Native forest ecosystems once formed a contiguous belt around Haleakala, Maui providing watershed ecosystems and habitat for hundreds of endemic invertebrates, plants, and birds. During the last 200 years, invasive species have destroyed and degraded much of this forest, with severe impacts in the leeward forest areas. Remaining leeward forests are now highly fragmented with pockets of remnant forests surrounded by extensive areas of complete deforestation. Watershed integrity throughout much of these areas is highly degraded, resulting in massive soil runoff and impacts on forest and marine ecosystems with biological, cultural, and economic consequences.

The mission of the Leeward Haleakala Watershed Restoration Partnership (LHWRP) is to restore the biological integrity of the native forests throughout this region to provide cultural, economic, and watershed benefits. This work is overwhelmingly supported by the community and is identified as a top priority in the State's recently adopted Comprehensive Wildlife Conservation Strategy. The main project funded in FY 05 was the Kahikinui Forest Restoration Project. The goal of this project is to contribute to efforts through the restoration of state lands in the Kahikinui region where the more intact tracts of remnant leeward forest remain. Focusing initial efforts in this area will maximize cost-effectiveness by preventing further loss of remaining forest. The initial objectives are to complete approximately eight miles of seven-foot deer-proof fencing to create a central management unit in collaboration with the Partnership. The following summarizes the accomplishments and future plans for this project:

- 1) Completed fence line survey to establish fence corridors using GPS and flagging for approximately eight miles of fence
- 2) Completed an EA for the fence with a Finding of No Significant Impact for the Environmental Assessment.
- 3) Completed and posted Invitation for Bids to construct the fence. Received four bids. Awarded the contract to the lowest bid: Southwest Fence and Supply Company.
- 4) Secured federal matching funds to support project costs.
- 5) Purchased, transported, and constructed approximately three miles of fence.
- 6) Work continues in FY 06 to complete the enclosure (figure 1). Completion of this initial unit will be followed by ungulate removal and forest restoration.
- 7) Partner efforts to fence the western management unit are expected to begin in FY 06. Partner efforts to complete planning for the eastern LHWRP management unit from

Kahikinui to Kaupo are expected to begin in FY 06.

For additional information on this project, go to
<http://www.dofaw.net/fbrp/projects.php?id=00035>

Kauai Watershed Alliance

The Kauai Watershed Alliance (KWA) approved the detailed management plan completed by The Nature Conservancy (TNC) in April 2005 and selected TNCH to coordinate the plan implementation. Additional FY 05 accomplishments included: 1) Completing aerial surveys of 11,000 acres of the watershed core to map weed and ungulate threats; 2) Collecting data on ungulate activity along transects in the Alakai Wilderness Preserve; 3) Containing and controlling Kahili ginger in the central Alakai; 4) Completing the mapping and surveys for the Lumahai fence; and 5) Developing an extensive GIS database to guide management actions. In FY 05, KWA intends to: 1) Extend the aerial threat surveys to a 5,000-acres buffer around the watershed core; 2) Initiate aerial and ground-based suppression of Australian tree fern in Lumahai; 3) Continue ginger containment and control actions in the central Alakai; 4) Install and monitor ungulate activity transects in Lumahai; 5) Obtain permits and initiate construction of the Lumahai fence to protect 1,500 acres; 6) Complete the mapping and surveys of additional fence lines; and 7) Initiate a program to inform and receive community input on KWA actions.

Because the primary threats to the watershed, ungulates and weeds, reproduce and spread at an alarming rate, a larger staff and more contracts would abate the threats more rapidly thereby reducing the long-term, overall costs of protecting Kauai's watershed. With additional funding, KWA would accelerate the implementation of the priority projects outlined in the management plan by increasing the staffing level from three to at least five personnel and providing more funds for contractual services.

The Puaiohi Recovery Project was cost-shared as a research and restoration component of watershed management. This rare thrush is found only in the remote Alakai Wilderness Area of Kauai. Puaiohi have declined precipitously in historic times. Little was known of the population status, which may have numbered well under 100 individuals and was in imminent danger of extinction. This project continues a long term recovery program in the watershed forests of Kauai, implementing the State's recently adopted Comprehensive Wildlife Conservation Strategy. The objectives are to continue a reintroduction program of captive-bred birds, to monitor released birds using radio telemetry, to complete a range-wide survey to document population size and distribution, and to begin a long term demographic study to understand population status, trends, and threats.

During FY 05, 17 captive-reared Puaiohi were released into the Alakai Wilderness Area, bringing the total number of birds released in the last seven years to 94. The birds were transported by helicopter and released in small groups (cohorts) consisting of approximately five-six individuals. Grids of 37 predator-specific poison bait stations were maintained to provide a predator control buffer around release sites. Biologists monitored dispersal and survival of released birds using ground and air telemetry combined with direct observations of birds when possible. Survival was confirmed for many of the released birds, and two are known

to have paired and nested with wild birds.

Population surveys were conducted in three drainages over approximately one square km to monitor population trends and obtain additional information on overall population size. Preliminary analysis of the survey data to date suggests a total population of 400-500 birds. While the expanding population is good, observations suggest that predation by introduced mammals continues to pose a serious threat to Puaiohi. Additional details are available at <http://www.dofaw.net/fbrp/projects.php?id=00022>

Kohala Mountains Watershed Partnership

For the Kohala Mountains Watershed Partnership, in 2005 the Fund was utilized for management actions including: 1) Support of contract staff salaries; 2) Completion of a watershed management plan; 3) Contracting of a cultural survey; 4) Purchase of new communications equipment to provide additional safety for field staff; 5) Equipment to control access into management areas to prevent the spread of invasive species and to monitor and mitigate for vandalism and malicious behavior; 6) Purchase of a federal surplus vehicle and helicopter time for transport of material and personnel to remote work sites, a critical need to smooth management operations; and 7) Monitoring of rare plant populations in a number of locations throughout the watershed including the lower, extremely remote locations. A small enclosure was built around a rare plant, *Gardenia remyi* at the lower elevations. A number of trails were re-flagged and the Kohala summit cabin had a number of improvements made.

In the present year it is hoped to: 1) Continue present levels of management activity; 2) Put the management plan through the environmental review process; 3) Work on removing cattle from the forest reserve; and 4) Prepare for implementation of the management plan by, and among other things, hiring a watershed coordinator.

The Partnership hosted a very successful watershed partnership symposium at the Waikoloa Hotel in mid-September, attended by over 170 including several key legislators and students from several local area schools. In addition to attending most of the sessions, the Legislators contributed to the two-way flow of information by themselves conducting two very informative panel discussions on formulating priorities, goals and specific strategies for forest and watershed conservation policy in the state legislative process.

Waianae Watershed Development

TNCH conducted a survey of landowners, land managers, and community groups in the Waianae region to assess the feasibility of forming a landscape-scale Waianae mountains watershed/conservation partnership focused on the mauka region of both sides of the mountains.

Through the interviews, most government agencies (DLNR, Department of Hawaiian Home Lands (DHHL), US Army, and Honolulu Board of Water Supply (BWS)) and community groups showed interest in such a partnership. Indeed, at an agency/community meeting conducted by the BWS, as part of a process to create a Waianae Watershed Management Plan, there was significant support for the concept.

There is already a precedent set by the Waianae Kai Community Forest Partnership, which

includes the BWS, State of Hawaii, and grass roots community groups active in the Waianae region. This project focuses on the Waianae Kai Forest Reserve and Makaha Valley forest lands, not the entire Waianae range. While some private landowners have shown interest in possibly joining a regional watershed partnership, others have expressed concerns about land encumbrance. Community groups are very active in this region, and want to have a voice in land management for conservation. In a place like the Leeward Oahu, it seems clear that a successful regional watershed partnership will require collaborative efforts of both community groups and landowners, and will need to consider mauka to makai relationships.

The possibility of forming a regional partnership is real, and planning efforts by the BWS and by the Waianae Kai Community Forest Partnership will continue. With the combination of community and landowner interests, the structure, leadership, and funding for watershed partnership in the Waianae will need to be carefully thought through, and will likely be unique amongst the array of watershed partnerships currently organized in the State. An existing partnership to study more closely as a potential guide is the East Molokai Watershed Partnership.

The conservation actions described above compliment existing projects (fencing, invasive species control) funded by other state programs (Forest Stewardship in Honouliuli), federal programs, and private funding.

Watershed Monitoring and Database Development

The objective of this ongoing project is to provide natural area and watershed partnership staff database assistance with ecological monitoring. Hawaii Natural Heritage Program (HINHP) was contracted to execute technical aspects of the project, and HINHP staff works closely with NARS and Watershed staff to carry out the project objectives. Over the previous year project accomplishments include: incorporating data to improve tracking of fence units, chemical treatment of invasive weeds, rare plant out plantings, and staff time. Tracking such data allows managers to more effectively make management decisions as well as provide more accurate reports to funding agencies. A data technician was hired to enter data from previous years into the database. Finally HINHP assessed the feasibility to use PDAs (Personal Data Assistant) for data collection to increase efficiency by eliminating the data entry process.

This year the project will accomplish the following management and maintenance tasks:

- Incorporating, updating, and normalizing past data into database;
- Develop quarterly and annual reports and data analyses;
- PDA programming and database development for field collection of data.

Stream Gage Monitoring

DOFAW has a joint funding agreement with USGS to operate and maintain 15 gauging stations on the Islands of Kauai, Oahu, Molokai, Maui, and Hawaii. The Agreement provides that DOFAW and USGS will each cost-share the cost of the necessary field and analytical work relating to the operation and maintenance of 13 stream gages and two rain gages within or in close proximity of watershed partnership areas. This stand alone agreement is one component of a larger network of gages being cost-shared by several cooperators including county water

boards, other state and federal agencies and private landowners.

Since 1909, USGS and the State have entered into agreements to monitor the State's water resources. Of the 376 perennial streams in Hawaii, over 140 have been gauged since the inception of the Cooperative Agreement. Collection of this hydrologic information is important for monitoring and analyzing the water resources of the State, and in recent times, the Department's Commission on Water Resource Management (CWRM) has been the lead state agency working with USGS to gather this information. Information from these gages were collected and analyzed as part of the overall hydrologic data-collection network. CWRM staff continue to review the data-collection network for duplication of effort, usefulness of information, and the need for monitoring information in a particular geographical area. For additional information on this program see <http://hi.water.usgs.gov/>.

Support for Trail and Access Road Maintenance

The Fund provided \$60,000 in FY 05 to assist the Department's Statewide Trail and Access Program (Na Ala Hele) in management and maintenance of multiuse trails and access roads. Actions associated with this grant included cost sharing with the Federal Recreational Trail Program Grant on trail and access road management in watersheds and hunting areas, through the acquisition and/or repair of tools and equipment used to reduce noxious plant species and reduce erosion along watershed trail corridors statewide.

YCC and Public Education

For a description of the accomplishments of the YCC and Watershed Information and Education, please see the Public Outreach, Youth Activities and Community Involvement section in the NARS section of this report.

2. COMPLIANCE WITH CHAPTER 42F, HRS, REQUIREMENTS

All Partnership projects are in accordance with the provisions in Chapter 42F, HRS.

3. ANALYSIS OF THE PROBLEMS AND ISSUES ENCOUNTERED

Natural resource protection and management are long-term efforts requiring time and energy commitments not often found in other projects. Restoration projects often take years before results are discernible. Several of the projects funded this year under NAPP and through the Watershed Partnerships could take years to achieve the desired objectives. It is important to note that management and protection of natural areas, watersheds and native ecosystems require on-going funding to prevent degradation from ever-expanding populations of feral animals and the spread of invasive plants and animals.

The emergence of watershed partnerships on every island across the State have contributed greatly to the State, federal and private partners' ability to appropriately manage these large forested areas. These landowner/community-based management partnerships have proven to be an effective tool for leveraging funds and securing stakeholder participation and commitment. Such initiatives also require a concerted effort and often take a long time to establish and

implement. To help with organization and implementation, partnership executive committees have been established to provide operational supervision and direction for the coordinators on a day to day basis. Larger policy level decisions are made at quarterly meetings.

Finding stable funding, sufficient to hire and retain qualified resource management personnel and to maintain existing levels of management, is a significant challenge to the watershed partnerships. The State funds provided through the Natural Area Reserves Special Fund have been critical to providing a measure of stability and to securing matching Federal and private conservation grants.

To help support individual partnerships on many levels, the Hawaii Association of Watershed Partnerships (HAWP) was formed in 2003. Headed by a Chair, it also has an executive committee with a delegated member of each partnership composing the board of directors. Recently a HAWP planner was hired to support the Chair and the individual partnership. This position will assist the partnership coordinators in the challenging areas of regulatory compliance, procurement, grant writing, and strategic planning.

4. STATUS OF PUBLIC HUNTING OPPORTUNITIES

On Molokai, the Kamakou Preserve is open for public hunting on a year-round basis for hunting of pigs, goats, and axis deer with no bag limits. The Moomomi Preserve currently has no public hunting opportunities. The Pelekunu Preserve continues to utilize staff-organized volunteer ground hunts through the Molokai Hunting Working Group.

On Maui, the Waikamoi Preserve has limited volunteer hunting opportunities. The conservation easement between TNCH and Haleakala Ranch allows ranch employees hunting privileges as long as there is game to hunt. Public hunters willing to follow guidelines, sign a liability waiver, and complete a volunteer form will be allowed to hunt in unit 1A of the preserve on a limited basis (when hunting will not interfere with ongoing management activities, planned guided hikes, and hunting by ranch employees). Public hunting on West Maui's Kapunakea Preserve is allowed only with staff supervision due to liability and safety concerns. The conservation easement between TNCH and Amfac/JMB Hawaii, L.L.C. requires that there be no unaccompanied public hunting. The Lanai hunting community has been actively involved with removing deer from the fenced units in the Kanepuu Preserve.

Although Puu Kukui Preserve is off-limits to public hunters, ML&P continues its private hunting permit program which allows anyone with a state hunting license to obtain a permit to hunt feral pigs year-round with no bag limit in select areas of its Honolua Plantation. As a result, 33 pigs were caught in the pineapple fields and gulches below the Preserve boundaries by 15 hunters with ML&P.

5. FINANCIAL REPORT

The Fund receives revenues from the Conveyance Tax (25% of total Conveyance Tax) on real estate transactions. In FY 05, revenues were \$5,740,267 with \$5,579,509 from the Conveyance Tax and \$160,757 from the Investment Pool (See Table B). The unencumbered balance at the

beginning FY 06 (7/1/05) was \$6,801,724 due to the high number of real estate transactions contributing revenue into the Fund. In FY 05, of the \$3,300,000 spending cap, \$3,299,262 was encumbered with \$1,931,865 expended by 6/30/05. Of the encumbrances, \$1,036,058 supported the NAPP Preserves (see Table C), \$264,177 supported the YCC Program (see Table D) and \$1,999,027 supported the Watershed Partnership Projects (See Table E for FY05 Encumbrances). Due to the record revenues, the Department of Budget and Finance (B&F) Central Services assessment, which counts against the spending cap, significantly lowered the available cash for natural resources protection programs by transferring \$387,086 from the Fund in FY 05 and is expected to transfer in excess of \$650,000 in FY 06, based on current revenue projections.

As shown in Tables E, a significant benefit of the Fund is to provide a state cost-share for the watershed partnerships and private landowners enrolled in the NAPP program to aggressively pursue federal and private watershed and conservation grants.

The Conveyance Tax also supports the Forest Stewardship Program (FSP) by direct transfers, pursuant to Section 247-7, HRS. The financial report of the Forest Stewardship Fund can be found in the FSP report, pursuant to Section 195F-6 (e), HRS.

6. PLANS AND MANAGEMENT OBJECTIVES FOR THE NEXT FISCAL YEAR

NAPP management activities are guided by completed management plans. Plan implementation will focus on eliminating or controlling the spread of non-native plants and animals that have a detrimental effect on native ecosystems. Other management considerations will include rare and endangered species protection, monitoring, research, public education and generating community support. After several years of no new NAPP preserve contracts, staff has been contacted by two landowners interested in applying for the Program. As well, Moomomi, Kamakou, and Waikamoi Preserves on Molokai and Maui are expected to renew their NAPP contracts during FY 06.

FY 06 will be a very active year for the watershed partnerships. DOFAW and NARS staff will continue their leadership roles in these partnership activities, both statewide and at the individual partnership level. Sections of existing management plans will be implemented as a result of developing management capacity due to, among other things, obtaining a number of federal watershed and conservation grants and the Legislature providing the state cost-share from the Fund. Newly adopted management plans developed for Kauai and Kohala will initiate implementation. For FY 06, The Fund's allocations to support the above mentioned Programs are outlined in Table F.

This was the third year of the USFWS Landowner Incentive Program, a Federal grant program administered by the State which is designed to encourage conservation on private lands. The additional Federal funding allows additional actions to be conducted on endangered species habitat on private lands, particularly within watershed partnership areas. In FY 06, staff will be assisting landowners in implementing these projects, developing projects for FY 07, and continue existing multi-year projects. Although this puts additional workload on existing NARS staff, there has been excellent progress in encouraging additional natural resource management

on private lands.

As described in the NARS section of this report, the Legacy Lands Act (Act) should increase the level of funding for NAPP, Forest Stewardship, and Watershed Partnership projects. It is conservatively estimated funds available for the programs will increase from \$5.7 million, based on 2005 revenues, to approximately \$9.0 million. These projections are supported by FY 06 first quarter revenue reports. Similar to NARS, the individual NAPP preserves and watershed partnerships are presently reviewing their management plans to update previously identified management needs (including fencing, animal removal, and weed control within the reserves) with the expectation of increased funding being available, starting in FY 07 and onward into the future. The Department and partners believe that, although adding workload, expanding these environmental protection programs is both desirable and achievable to meet the mission of protecting watersheds.

NAPP complements NARS, serving as irreplaceable legacies of biodiversity not only for Hawaii, but also for the entire world, protecting habitat for native species found nowhere else on Earth. The funds provided by the Act will be committed to provide greater forested watershed protection across the State, to meet the water and ecological service needs for the State's population, while also preserving the best remaining native habitats for the benefit of future generations.

Detailed project plans and accomplishment reports for the NARS, NAPP, Watershed Partnership Program, and YCC, are available through links from DOFAW websites or from the:

Natural Areas Program Manager
Department of Land and Natural Resources
Division of Forestry and Wildlife
1151 Punchbowl Street, Room 325
Honolulu, HI 96813
Telephone: 587-0054

LNR 407 Natural Areas Management Budget Summary FY 05

Table A: FY 05 Natural Area Reserve System Expenditures (General Fund App. 047) **Total =\$1,081,837**

NARS 'A' Personnel Expenditures FY 05 (22 positions) Total = \$647,534
 NARS 'B' Operating Expenditures FY 05 Total = \$434,303

FY 06 Natural Area Reserve System Allocation (General Fund App. 047) **Total = \$1,137,714**

NARS 'A' Personnel Expenditures FY 06 (22 positions) Total = \$698,329
 NARS 'B' Operating Expenditures FY 06 Total = \$439,385

Table B: Natural Area Reserve Fund Revenues FY 05 (342) **Total =\$5,740,266**

Revenue Source	Time-frame	Amount
FY05 Conveyance Bureau transfers	1/7/04-6/30/05	\$5,579,509
Investment Pool Revenues	1/7/04-6/30/05	\$160,757
	TOTAL	\$5,740,266

Table C: NAPP Reserves Expenditures FY 05 (342) **Total = \$1,036,057**

NAPP Preserves	Expenditures FY 05
Kapunakea	\$ 113,187
Kanepuu	\$ 110,255
Kamakou	\$ 157,128
Moomomi	\$ 35,108
Pelekunu	\$ 124,016
Puu Kukui Watershed Management Area	\$ 180,177
Waikamoi	\$316,187

Table D: Youth Conservation Corps Expenditures FY 05 (342)**Total State Expenditures = \$264,177**

Activity	Budgeted Expenditures FY05	
	State NARF funds	Federal and Private Contributions
YCC/Americorps student stipends & fringe	\$135,363	\$134,000
Program coordination (contract)	\$80,000	\$12,200
Miscellaneous costs: operations, training, marketing, transportation and logistical support costs	\$48,814	\$88,655
Total	\$264,177	\$234,855

Table E: NARF Funded Watershed Projects FY 05 w/ Cost-Share**Total= \$1,999,027**

Project Location	Project Title	NARF	Federal/Private Match Available	Federal/Private Match Source
N/A	B+F Central Services	\$387,086	\$0	-
Statewide	Wildland Fire Program	\$80,000	\$80,000	USFS
Statewide	Remote stream gauging stations	\$100,000	\$300,000	USGS
Statewide	Planning support for Watershed Partnerships w/ PCSU personnel	\$75,585	\$125,000	CCA/SWG/USFS
Statewide	Annual Hawaii Conservation Alliance dues	\$7,500	\$7,500	RCUH
Statewide	Organization of Hawaii Watershed Symposium	\$5,000	\$6,000	KS
Statewide	Heritage Watershed Monitoring	\$15,000	\$15,000	USFS
Statewide	Implementation of a Statewide Landowners Incentive Program	\$35,000	\$88,000	LIP
Statewide	Trails Program	\$60,000	240000	RTP
Statewide	Game Operations/Maintenance	\$20,000	60000	PR

Statewide	Watershed I+E services	\$24,000	\$10,000	USFS
EMWP	Endangered Maui Forest Bird Management	\$10,000	\$30,000	SWG
EMWP	EMWP - Plan Implementation	\$140,000	\$257,000	LIP
EMWP	East Maui Partnership Habitat Restoration	\$6,000	20000	HCCI
EMWP	Hana High Environmental Internship Program	\$12,000	\$40,000	BM
O-KP	O-KP Plan Implementation with PCSU crew	\$80,000	80,000	LIP
O-KP	Plant habitat management	\$38,330	113,000	S6P
O-KP	Keauhou Ranch Fencing and Forest Restoration	\$5,000	\$15,000	LIP
EMoWP	EMoWP contested case costs	\$25,000	20,000	TNC
EMoWP	Puu Alii fencing project	\$50,000	\$200,000	DOI
EMoWP	EMoWP Plan Implementation	\$25,000	\$20,000	EPA
WMMWP	Puu Kukui axis deer fencing project	\$20,000	\$20,000	HCCI
WMMWP	Kahakuloa fencing project	\$16,000	\$60,000	HCCI
WMMWP	WMMWP- Plan Implementation	\$34,000	\$70,000	LIP
KMWP	Plant Maintenance and Enhancement – Koolau	\$5,000	\$14,500	S6P
KMWP	Recovery Actions-- Koolau	\$14,029	\$37,086	S6P
KMWP	KMWP Protection/ Restoration w/ PCSU crew	\$75,000	180,000	LIP
KMWP	Northern Koolau Hunting Program	\$10,000	\$20,000	HCCI
LWP	Lanai Forest and Watershed Partnership	\$20,000	\$20,000	Dole Co.
LWP	Lanai High Environmental Internship Program	\$12,000	\$40,000	BM
LHWRP	Kahikinui fencing project	\$180,000	\$180,000	DOI
LHWRP	Kanaio fencing project	\$30,000	\$90,000	S6C
KWA	Puaiohi Population Management	\$50,000	\$75,000	SWG
KWA	Kokee Rare Plant Facility Propagation and Outplanting	\$26,667	\$80,000	S6P
KWA	Kauai Watershed On-the-ground Projects w/ PCSU crew	\$95,000	45,000	CCA/S6P
KWP	Management actions for Kohala watershed W/ PCSU crew	\$129,830	100,000	NRCS/S6P

Waianae	Plant Outplanting and Monitoring, Waianae Mts.	\$21,000	\$95,000	S6P
Maui Nui	Baseyard improvements (office trailer)	\$60,000	\$0	-
	TOTAL	\$1,999,027	\$2,853,086	TOTAL MATCH